

Application No. 10/619,818
Docket No. 2001-0793.02
(57005.US/4665.0)

REMARKS

Claims 1-24 are in the application. The specification was amended to remove a numeral not shown in the drawings and to correct an inadvertent typographical error. Withdrawn claims 2 and 4 are amended to correct inadvertent typographical errors in the event the restriction requirement is withdrawn. Claims 21 and 22 are amended to more clearly and distinctly claim the subject matter. Support for the amendment to claim 21 can be found in the claims and in the specification on page 9, lines 5-7 and lines 26-28. Support for the amendment to claim 22 can be found in claim 7 and in the specification on page 9, line 29-31. No new matter is added to the case by the amendment.

In the Office Action, a restriction requirement was made between claims 1-10 (Group I claims), drawn to an apparatus for laser welding, in class 156, claims 11-14 (Group II claims) drawn to a method for attaching a filter to a filter tower frame using a clamping fixture, in class 156, claims 15-20 (Group III claims) drawn to an ink cartridge for an ink jet printer, in class 347, and claims 21-24 (Group IV claims) drawn to a method for attaching a filter to a filter tower frame, in class 156.

In the Office Action claims 21-24 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 2002/0191058 to Anderson, et al., in view of U.S. Patent No. 5,049,720 to Fang et al. Reconsideration and withdrawal of the rejection is respectfully requested in view of the foregoing amendments and following remarks.

A. **The Restriction Requirement Is Improper And Should Be Withdrawn.**

A provisional election was made on May 16, 2005, to prosecute the invention of the Group IV claims (claims 21-24). Applicants hereby confirm this election. This election was made solely for the purpose of advancing prosecution in the case and was made with traverse.

Applicants respectfully submit that the requirement to restrict the claims made in this case is improper. The claims as grouped by the examiner are sufficiently related

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that their respective classes and subclasses would be thoroughly cross-referenced, and essentially the same classes and subclasses would have to be reviewed regardless of which group was examined. For example, the examiner indicated that the Group I claims, the Group II claims and the Group IV claims are all classified in the same class. Accordingly, regardless of whether the method or the apparatus is being claimed, the examiner will undoubtedly review the same art for each of the groups of claims. Hence, examination of claims 1-24 in the same application does present an undue burden on the examiner as discussed in more detail below.

When searching the Group I claims for prior art relating an apparatus adapted for laser welding a filter material to a filter tower frame for an ink jet printer cartridge, the examiner will necessarily search art related to a method of using the apparatus for laser welding a filter material to a filter tower frame as provided in the Group II and Group IV claims. The examiner should also search the prior art related to the Group III claims which are directed to an ink cartridge having a filter welded to a filter tower frame by a laser welding process.

When searching the Group II claims for prior art relating to a method for welding a filter material to a filter tower frame for an ink jet cartridge using a clamping fixture, the examiner will have to search art relating to the apparatus for laser welding provided in the Group I claims, and a method of using the apparatus for laser welding a filter material to a filter tower frame as provided in the Group IV claims. The examiner should also search the prior art related to the Group III claims which are directed to an ink cartridge having a filter welded to a filter tower frame by a laser welding process.

When searching the Group III claims for prior art relating to an ink cartridge having a filter welded to a filter tower frame by a laser welding process, the examiner should search art directed to an apparatus for laser welding provided in the Group I claims, and a method of using the apparatus for laser welding a filter material to a filter tower frame as provided in the Group II claims and in the Group IV claims.

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Finally, when searching the Group IV claims for prior art relating to a method for welding a filter to a filter tower frame using a laser welding apparatus, the examiner should search art directed to an apparatus for laser welding provided in the Group I claims, a method of using the apparatus for laser welding a filter material to a filter tower frame as provided in the Group II claims and an ink cartridge having a filter welded to a filter tower frame by a laser welding process as provided in the Group III claims.

It is therefore evident that examination of the Group I, Group II, Group III, and Group IV claims in separate applications will result in duplication of effort since the same classes and subclasses should be searched regardless of which claims are elected. Such duplication of effort is wasteful of Patent Office manpower and resources and it also needlessly increases the cost to the public in obtaining patent protection for closely related inventions or for applications which contain claims of overlapping scope.

Moreover, restriction is not "required" by 35 U.S.C. § 121 as suggested by the Examiner. Congress wisely gave the Commissioner the "discretion" to require restriction. According to 35 U.S.C. § 121 "... the Commissioner may require the application to be restricted...." (emphasis added). The MPEP § 803 lists two criteria that must be present for restriction to be proper:

- 1) The inventions must be independent or distinct; and
- 2) There must be a serious burden on the Examiner if restriction is not required (emphasis added).

The Examiner has not shown any serious burden if examination of all of the claims is conducted at one time, particularly since most of the claims require searching the same class. Applicants therefore urge the examiner to reconsider this matter, withdraw the restriction requirement, and proceed with examination of Claims 1-24 in this application.

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B. Claims 21-24 Are Patentably Distinguished Over the Cited References.

The invention relates to a method for attaching a synthetic filter material to a filter tower structure using a laser welding apparatus and procedure. The apparatus includes a laser beam transparent window in contact with the filter material that is used to apply pressure to the filter material to press the filter material to the filter tower structure during the laser welding process. A particular wavelength of laser beam is used for the laser welding process to provide a narrow weld line to weld the filter to the filter tower frame wherein the filter and filter tower frame have melting points no more than about 30°C. apart. The process is particularly adaptable to filter materials that have complex shapes rather than merely planar filter materials.

In the rejection of claims 21-24, the '058 publication to Anderson et al. is cited as the primary reference. However, the '058 publication is merely cited for mentioning, without qualification, that in addition to the use of a heated ram, ultrasonic welding and laser welding may be used to fuse a filter material to a cartridge housing. The '058 reference does not provide motivation to select laser welding as the method of choice for attaching a filter to a cartridge housing and provides absolutely no guidance as to how such a laser welding process may be conducted on such delicate materials.

Furthermore, the '058 publication is manifestly deficient in suggesting or disclosing the following elements of the claimed invention: (1) a filter and filter tower frame having melting points of no more than about 30°C. apart, (2) a laser beam transparent filter material, (3) a laser beam absorbent filter tower frame, (4) pressing the filter to the filter tower frame using a laser beam transparent plate, (5) using a pressure of from about 1500 to about 3000 mm Hg to press the filter to the filter tower frame, (6) laser welding the filter to the filter tower frame around the periphery of the filter tower frame, and (7) using a laser beam having a wavelength ranging from about 750 to about 1200 nanometers.

With respect to the dependent claims, the '058 publication fails to suggest or disclose a laser beam transparent plate containing a non-stick coating on a surface thereof (claim 22), the use of a narrow weld width of from about 0.4 to about 0.8

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millimeters at a welding speed of from about 20 to about 40 millimeters per second (claim 23), and a laser welding step selected from contour laser welding, mask laser welding, and quasi-simultaneous laser welding (claim 24).

In an attempt to cure the deficiencies of the '058 publication to provide all of the elements of the claimed invention, the examiner combines the '720 patent to Fang et al. with the '058 publication. The '720 patent relates to a plastic welding apparatus using a laser for welding a plastic lid material to a container. The '720 patent uses pressurized air in an annular chamber 40 to press an outer portion of the lid material downward against a lip of the container. (See, column 2, lines 38-43 and FIGS. 4-5 of the '720 patent). The sky window 29 of the '720 patent is clamped on the shoulders of an annular ring so that it is not in contact with the lid. Since air rather than a transparent plate is used, the '720 patent leads away from using a laser transparent material to press the lid to the container during a laser welding process.

There is nothing in the '720 patent that suggests the apparatus may be used for welding filters to filter tower structures and the critical parameters for such a laser welding process are not disclosed in either reference. Accordingly, there is no motivation in the '720 patent to combine the '720 patent with the '058 publication to provide the claimed invention.

However, even if the references are combined, the combined references fail to provide the following elements of the claimed invention: (1) a filter and filter tower frame having melting points of no more than about 30°C. apart, (2) a laser beam transparent filter material, (3) a laser beam absorbent filter tower frame, (4) pressing the filter to the filter tower frame using a laser beam transparent plate, (5) using a pressure of from about 1500 to about 3000 mm Hg to press the filter to the filter tower frame, (6) laser welding the filter to the filter tower frame around the periphery of the filter tower frame, and (7) using a laser beam having a wavelength ranging from about 750 to about 1200 nanometers.

With respect to the dependent claims, the combined references fail to provide a laser beam transparent plate containing a non-stick coating on a surface thereof (claim

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22), the use of a narrow weld width of from about 0.4 to about 0.8 millimeters at a welding speed of from about 20 to about 40 millimeters per second (claim 23), and a laser welding step selected from contour laser welding, mask laser welding, and quasi-simultaneous laser welding (claim 24).

In summary, there is no motivation in either of the references to make the combination made by the examiner and even if the references are combined, the combined references fail to provide all of the elements of the claimed invention. Accordingly, it is respectfully submitted that the amended claims are patentable over the cited references. Reconsideration and allowance of claims 21-24 are respectfully requested.

Applicants do not intend to surrender any range of equivalents under the Doctrine of Equivalents in regard to any claim limitation that appears in the final claims in any patent that may issue from this or any related application. Applicants expressly reserve the right to resort to the Doctrine of Equivalents for all limitations in regard to any future assertion of infringement of any claim, whether the limitation was present in an original claim, added by amendment to a claim, or referenced in any argument to distinguish any claim from any prior art. All claims in any patent issued from this or any related application represent a statutorily presumed valid and patentable combination of structure and/or steps, and it is this combination which is presumed to patentably distinguish the claims from the prior art, not any particular limitation of any claim.

In the event this response is not timely filed, Applicants hereby petition for the appropriate extension of time and request that the fee for the extension along with any other fees which may be due with respect to this paper be charged to our Deposit Account No. 12-2355.

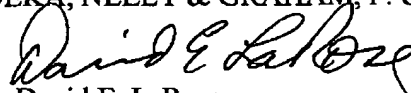
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If the Examiner identifies further issues which may be resolved by telephone,
the Examiner is kindly invited to contact the undersigned at (865) 546-4305.

Respectfully submitted,

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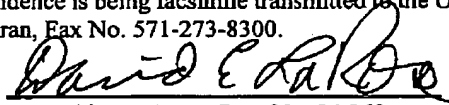
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I hereby certify that this correspondence is being facsimile transmitted to the U.S. Patent Office to Group
Art Unit 1733, Attn; Examiner John T. Haran, Fax No. 571-273-8300.

Date: September 1, 2005



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